

IN THE SPECIFICATION

Please amend paragraphs 001, 0010, 0077, 0080, 0099 and 0114 of the application, as filed, as follows:

UK [001] This application references Provisional Application No. 60/253.799 filed 11/29/00; of Ken Cowans titled, "High efficiency engine with variable compression ratio and charge; (VCRC engine)". This application is a division of application No. 09/995,674, filed November 29, 2001. ^{now Patent 6,708,654}

[0010] Current proposals mostly fail to globally address the complexity of this problem. Any solution that addresses internal combustion engine efficiency needs to consider the basic combustion process itself. To obtain high efficiency at very low power outputs a solution must address the problem of lean burning. Hydrocarbon fuels do not burn rapidly enough for use in an automotive sized engine at fuel-air ratios under around 50-60% of stoichiometric ratio. To obtain ultra-efficient burning at 10% of maximum power output it is necessary to efficiently combine the fuel with air at fuel air ratios around 15-20% of stoichiometric within the time it takes an engine to rotate 30-35[0]° at around 2,000 rpm or about 3 milliseconds. No matter what is done to a bulk air-fuel mixture this has not proved feasible in workable systems.